

JUL 14 2003

Substitute PTO/SB/A (08-00)

Approved for use through 10/31/2002 OMB 0851-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form PTO/SB/A INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	09/921,845
		Filing Date	August 3, 2001
		First Named Inventor	Meade, Thomas
		Group Art Unit	1637
		Examiner Name	Strzelecka, Teresa, Ph.D.
		Attorney Docket Number	A-64411-2/RFT/RMS/RMK
Sheet	1	of	11

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U.S. PATENT DOCUMENTS

Examiner Initials*	City No.	U.S. Patent Document Number-Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A0	4,704,403	11/1987	Bowers et al.	duplicate
TS	A1	4,707,352	11/1987	Stavrianopoulos	
	A2	4,707,440	11/1987	Stavrianopoulos	
	A3	4,711,955	12/1987	Ward et al.	
TS	A4	4,755,458	7/1988	Rabbani et al.	
	A5	4,787,963	11/1988	MacConnell	duplicate
TS	A6	4,840,893	8/1989	Hill et al.	
	A7	4,849,513	7/1989	Smith et al.	
	A8	4,868,103	9/1989	Stavrianopoulos et al.	
	A9	4,894,325	1/1990	Engelhardt et al.	
TS	A10	4,943,523	7/1990	Stavrianopoulos	
	A11	4,945,045	7/1990	Forrest et al.	duplicate
TS	A12	4,952,685	8/1990	Stavrianopoulos	
	A13	4,994,373	2/1991	Stavrianopoulos	
	A14	5,002,885	3/1991	Stavrianopoulos	
	A15	5,013,831	5/1991	Stavrianopoulos	
TS	A16	5,082,830	1/1992	Brakei et al.	
	A17	5,089,112	2/1992	Skothelm et al.	duplicate
TS	A18	5,175,269	12/1992	Stavrianopoulos	
	A19	5,180,968	1/1993	Bruckenstein et al.	duplicate
TS	A20	5,241,060	8/1993	Engelhardt et al.	
	A21	5,242,828	9/1993	Bergstrom et al.	
	A22	5,278,043	1/1995	Bannwarth et al.	
	A23	5,312,527	5/1994	Mikkelsen et al.	
TS	A24	5,328,824	7/1994	Ward et al.	
	A25	5,358,766	10/1994	Heiter et al.	duplicate
	A26	5,391,272	2/1995	O'Daly et al.	duplicate
TS	A27	5,403,451	4/1995	Rivello et al.	
TS	A28	5,436,161	7/1995	Bergstrom et al.	
Examiner Signature	Teresa Strzelecka		Date Considered	11/3/03	

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete If Known			
		Application Number	09/921,645		
		Filing Date	August 3, 2001		
		First Named Inventor	Meade, Thomas		
		Group Art Unit	1837		
		Examiner Name	Strzelecka, Teresa, Ph.D.		
Sheet	2	of	11	Attorney Docket Number	A-64411-2/RFT/RMS/RMK

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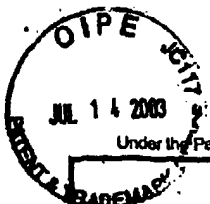
U.S. PATENT DOCUMENTS					
Examiner Initials*	Citation No.	U.S. Patent Document Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A29	5,443,704	8/1995	Willner et al.	duplicate
TS	A30	5,449,787	9/1995	Ward et al.	
	A31	5,472,881	12/1995	Beabe et al.	
	A32	5,476,928	12/1995	Ward et al.	
	A33	5,552,270	9/1996	Khrapko et al.	
	A34	5,565,552	10/1996	Magda et al.	
	A35	5,571,568	11/1996	Ribi et al.	
	A36	5,573,906	11/1996	Bannwarth et al.	
	A37	5,591,578	1/1997	Meade et al.	
	A38	5,595,908	1/1997	Fawcett et al.	
	A39	5,601,982	2/1997	Sargent et al.	
TS	A40	5,620,850	4/1997	Bamdad et al.	
	A41	5,632,957	5/1997	Heller et al.	duplicate duplicate
	A42	5,700,667	12/1997	Marble et al.	
TS	A43	5,705,348	1/1998	Meade et al.	
	A44	5,741,700	4/1998	Ershov et al.	
	A45	5,756,050	5/1998	Ershov et al.	
	A46	5,770,369	6/1998	Meade et al.	
	A47	5,770,721	6/1998	Ershov et al.	
	A48	5,776,672	7/1998	Hashimoto et al.	
	A49	5,780,234	7/1998	Meade et al.	
	A50	5,824,473	10/1998	Meade et al.	
	A51	5,837,859	11/1998	Teoule et al.	
	A52	5,849,486	12/1998	Heller et al.	
	A53	5,851,772	12/1998	Mirzabekov et al.	
	A54	5,952,172	9/1999	Meade et al.	
	A55	6,087,100	7/2000	Meade et al.	
TS	A56	6,096,825	8/2000	Garnier	

Examiner Signature	Teresa Strzelecka	Date Considered	11/3/03
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet **3** of **11**

Complete If Known

Application Number **09/921,645**
Filing Date **August 3, 2001**
First Named Inventor **Meade, Thomas**
Group Art Unit **1637**
Examiner Name **Strzelecka, Teresa, Ph.D.**
Attorney Docket Number **A-84411-2/RFT/RMS/RMK**

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	U.S. Patent Document Number-Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
TS	A57	6,177,250	1/2001	Meade et al.	
	A58	6,180,352	1/2001	Meade et al.	
	A59	6,200,761	3/2001	Meade et al.	
	A60	6,207,369 B1	3/1995	Wohlstadter et al.	
TS	A61	6,238,870	5/2001	Meade et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document Country Code* Number* Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T*
TS	B1✓	EP 0 234 938 A2	2/1987	Cranfield Inst. of Tech.		
	B2✓	EP 0 229 943 B1	7/1987	Molecular Biosystems Inc.		
	B3✓	EP 0 599 337 A2	1/1994	Canon Kabushiki Kaisha		
	B4✓	EP 0 063 879 A2	11/1982	Yale University		
	B5✓	EP 0 515 615	9/1996	Boehringer Mannheim		
	B6✓	CA 2 090 904 A1	9/1993	F. Hoffman-La Roche		
	B7✓	JP 238,166 A	1988	Mitsubishi Corp.	Abstract	
	B8✓	JP 6-41183 A2	1994	Mitsubishi Corp.	Abstract of	
	B9	WO 88/05815 A1	3/1985	Genentics International Inc.		
	B10✓	WO 90/05732 A1	5/1990	Columbia Univ.		
	B11✓	WO 82/10767 A1	6/1992	Boehringer Mannheim		
	B12✓	WO 93/22676 A2	11/1993	Mass Inst. of Tech.		
	B13✓	WO 93/10267 A1	5/1993	IGEN, Inc.		
	B14✓	WO 94/22889 A1	10/1994	Cis Bio International	In French	
	B15✓	WO 95/15971 A2	6/1995	Calif. Inst. of Technology	Abstract only	
	B16✓	WO 96/40712 A1	12/1996	Calif. Inst. of Technology		
	B17✓	WO 97/01646 A2	1/1997	Univ. of N. Carolina		
	B18✓	WO 97/44851 A1	11/1997	AU Membrane and Biotech.		
	B19✓	WO 97/27329 A1	7/1997	Univ. of Chicago		
TS	B20✓	WO 98/27229 A1	8/1998	Univ. of Chicago		

Examiner
Signature

Teresa Strzelecka

Date
Considered

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* Unique citation designation number. * See attached Kinds of U.S. Patent Documents at www.uspto.gov or MPEP 801.04. * Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). * For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. * Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. * Applicant is to place a check mark here if English Language Translation is attached.

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Application Number	09/921,645
Filing Date	August 3, 2001
First Named Inventor	Meads, Thomas
Group Art Unit	1637
Examiner Name	Strzelecka, Teresa, Ph.D.
Attorney Docket Number	A-64411-2/RFT/RMS/RMK

Sheet	4	of	11
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document Country Code ¹ Number ² Kind Code ³ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
TS	B21	WO 98/28444 A2	7/1998	Univ. of Chicago		
	B22	WO 98/35232 A2	8/1998	Univ. of N. Carolina		
	B23	WO 99/67425 A2	12/1999	Clinical Micro Systems		
	B24	WO 99/14596 A1	3/1999	AB Sangtec Medical		
	B25	WO 99/37819 A2	7/1999	Clinical Micro Systems		
	B26	EP 0 589 867 B1	4/1996	Pharmacia Biosensor		
TS	B27	WO 90/05303 A1	5/1990	Pharmacia AB		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁴
TS	C1	✓ AIZAWA, et al., "Integrated Molecular Systems for Biosensors," Sensors and Actuators B Chemical, B 24-25:1-5 (1995)	
	C2	✓ ALBERS, et al., "Design of Novel Molecular Wires for Realizing Long-Distance Electron Transfer," Biochemistry and Biophysics, 42:25-33 (1997).	
	C3	✓ ALLEMAN, K.S., et al., "Electrochemical Rectification at a Monolayer-Modified Electrode," J. Phys. Chem., 100:17050-17058 (1996).	
	C4	✓ ARKIN, et al., "Evidence for Photoelectron Transfer Through DNA Intercalation," J. Inorganic Biochem. Abstracts, 6th International Conference on Bioinorganic Chemistry, 51(1) & (2):526 (1993).	
	C5	✓ BARISCI, et al., "Conducting Polymer Sensors," TRIP, 4(9):307-311 (1996)	
	C6	✓ BAUM, R. M., "Views on Biological, Long-Range Electron Transfer Stir Debate," C&EN, pp 20-23 (1993).	
	C7	✓ BECHTOLD, R., et al., "Ruthenium-Modified Horse Heart Cytochrome c: Effect of pH and Ligation on the Rate of Intramolecular Electron Transfer between Ruthenium(II) and Heme(III)," J. Phys. Chem., 90(16):3800-3804 (1986).	
	C8	✓ BEATTIE, et al., "Genosensor Technology," Clinical Chemistry, 39(4): 719-722 (1993).	
TS	C9	✓ BIDAN, "Electroconducting conjugated polymers: new sensitive matrices to build up chemical or electrochemical sensors. A Review.," Sensors and Actuators, B6:45-56 (1992).	
	C10	Biotechnology and Genetics: Genetic Screening Integrated Circuit," The Economist (February 25-March 3, 1995).	
TS	C11	✓ BLONDER, et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," Chem. Commun. 1393-1394 (1998).	
	C12	✓ BOGUSLAVSKY, L. et al., "Applications of redox polymers in biosensors," Solid State Ionics, 60:189-197 (1993).	
TS	C13	✓ BAMDAD, C. "A DNA self-assembled monolayer for the specific attachment of unmodified double - or single stranded DNA," Biophysical Journal, 75:1997-2003 (1998): (1998).	

Examiner
Signature

Teresa Strzelecka

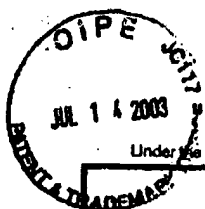
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known			
		Application Number	09/921,645		
		Filing Date	August 3, 2001		
		First Named Inventor	Meade, Thomas		
		Group Art Unit	1637		
		Examiner Name	Strzelecka, Teresa, Ph.D.		
Sheet	5	of	11	Attorney Docket Number	A-64411-2/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), file of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
TS	C14	BOWLER, B. E., et al., "Long-Range Electron Transfer in Donor (Spacer) Acceptor Molecules and Proteins," <i>Progress in Inorganic Chemistry: Bioinorganic Chemistry</i> , 38:259-322 (1990).
	C15	BRUN, A. M., et al., "Photochemistry of Intercalated Quaternary Diazaaromatic Salts," <i>J. Am. Chem. Soc.</i> , 113:8153-8159 (1991).
	C16	BUMM, et al., "Are Single Molecular Wires Conducting?," <i>Science</i> 271:1705-1707 (1996).
	C17	CANTOR, C.R., et al., "Report on the Sequencing by Hybridization Workshop," <i>Genomics</i> , 13:1378-1383 (1992).
	C18	CARR, et al., "Novel Electrochemical Sensors for Neutral Molecules," <i>Chem. Commun.</i> , 1649-1650 (1997).
	C19	CARTER, et al., "Voltammetric Studies of the Interaction of Metal Chelates with DNA. 2. Tris-Chelated Complexes of Cobalt(III) and Iron(II) with 10-Phenanthroline and 2,2'-Bipyridine," <i>J. Am. Chem. Soc.</i> , 111:8901-8911 (1989).
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	C21	CHIDSEY, et al., "Coadsorption of Ferrocene-Terminated and Unsubstituted Alkanethiols on Gold" Electroactive Self-Assembled Monolayers," <i>J. Am. Chem. Soc.</i> , 112:4301-4308 (1990).
	C22	CHIDSEY, C.E.D., et al., "Free Energy and Temperature Dependence of Electron Transfer at the Metal Electrolyte Interface," <i>Science</i> , 251:919-922 (1991).
	C23	CHRISEY, et al., "Covalent attachment of synthetic DNA to self-assembled monolayer films," <i>Nucleic Acids Research</i> , 24(15):3031-3039 (1996).
	C24	CLERY, "DNA Goes Electric," <i>Science</i> , 267:1270 (1995).
	C25	Commerce Business Daily Issue of September 26, 1996 PSA#1688.
	C26	DAVIS, L. M., et al., "Electron Donor Properties of the Antitumor Drug Amsacrine as Studied by Fluorescence Quenching of DNA-Bound
	C27	DAVIS, L. M., et al., "Elements of biosensor construction," <i>Enzyme Microb. Technol.</i> 17:1030-1035 (1995).
	C28	DEGANI et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 2. Methods for Bonding Electron-Transfer Relays to Glucose Oxidase and D-Amino-Acid Oxidase," <i>J. Am. Chem. Soc.</i> 110:2615-2620 (1988).
	C29	DEGANI, Y., et al., "Electrical Communication between Redox Centers of Glucose Oxidase and Electrodes via Electrostatically and Covalently Bound Redox Polymers," <i>J. Am. Chem. Soc.</i> , 111:2357-2358 (1989).
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	C31	DEINHAMMER, R.S., et al., "Electrochemical Oxidation of Amine-containing compounds: A Route to the Surface Modification of glassy carbon electrodes," <i>Langmuir</i> , 10:1306-1313 (1994).
TS	C32	DREYER, G. B., et al., "Sequence-specific cleavage of single-stranded DNA: Oligodeoxynucleotide-EDTA/Fe(II)," <i>Proc. Natl. Acad. Sci. USA</i> , 82:968-972 (1985).

Examiner Signature	Teresa Strzelecka	Date Considered	11/3/03
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 6 of 11

Complete if Known

Application Number 09/921,845
Filing Date August 3, 2001
First Named Inventor Meade, Thomas
Group Art Unit 1837
Examiner Name Strzelecka, Teresa, Ph.D.
Attorney Docket Number A-64411-2/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.†	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	†
TS	C33	DROBYSHEV, A., et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of β -thalassaemia Mutations," <i>Gene</i> , 188:45-52 (1997).	
	C34	DUBILEY, S., et al., "Fractionation, phosphorylation and ligation on Oligonucleotide Microchips to Enhance Sequencing by Hybridization," <i>Nucleic Acids Research</i> , 25(12):2259-2265 (1997).	
	C35	DURHAM, B., et al., "Electron-Transfer Kinetics of Singly Labeled Ruthenium(II) Polypyridine Cytochrome c Derivatives," <i>Advances in Chemistry Series</i> , 226:181-193 (1990).	
	C36	DURHAM, B., et al., "Photoinduced Electron-Transfer Kinetics of Singly Labeled Ruthenium Bis(bipyridine) Dicarboxylpyridine Cytochrome c Derivatives," <i>Biochemistry</i> , 28:8659-8665 (1989).	
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		Complete if Known	
		Application Number	09/921,645
		Filing Date	August 3, 2001
		First Named Inventor	Meade, Thomas
		Group Art Unit	1637
Examiner Name	Strzelecka, Teresa, Ph.D.		
Attorney Docket Number	A-64411-2/RFT/RMS/RMK		
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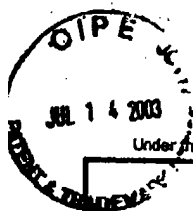
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/921,645		
		Filing Date	August 3, 2001		
		First Named Inventor	Meade, Thomas		
		Group Art Unit	1637		
		Examiner Name	Strzelecka, Teresa, Ph.D.		
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TS	C68 ✓	LEE, et al., "Direct Measurement of the Forces Between Complementary Strands of DNA," <i>Science</i> , 266:771-773 (1994).	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/821,645		
		Filing Date	August 3, 2001		
		First Named Inventor	Meade, Thomas		
		Group Art Unit	1637		
		Examiner Name	Strzelecka, Teresa, Ph.D.		
Sheet	9	of	11	Attorney Docket Number	A-64411-2/RFT/RMS/RMK

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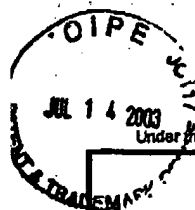
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/921,645
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TS	C105 ✓	SOUTHERN, et al., "Arrays of complementary oligonucleotides for analysing the hybridisation behaviour of nucleic acids," <i>Nucleic Acids Research</i> , 22(8):1368-1373 (1994).	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/921,645		
		Filing Date	August 3, 2001		
		First Named Inventor	Meade, Thomas		
		Group Art Unit	1637		
		Examiner Name	Strzelecka, Teresa, Ph.D.		
Sheet	11	of	11	Attorney Docket Number	A-64411-2/RFT/RMS/RMK

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Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T*	
TS	C122 ✓	WEBER, et al., "Voltammetry of Redox-Active Groups Irreversibly Adsorbed onto Electrodes. Treatment Using the Marcus Relation between Rate and Overpotential," <i>Anal. Chem.</i> , 66:3164-3172 (1994).		
	C123 ✓	WILLIAMS, et al., "Studies of oligonucleotide interactions by hybridisation to arrays: the influence of dangling ends on duplex yield," <i>Nucleic Acids Research</i> , 22(8):1365-1367 (1994).		
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